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Amperometric biosensor based on deoxyribonucleic acid and platinum(II) complexes: New analytical capabilities

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Abstract

A new method for the immobilization of DNA on a nitrocellulose membrane was proposed. The activity of immobilized biomolecules is retained their activity. The immobilized DNA was used as the biosensitive part of an amperometric sensor based on a stationary mercury-film electrode. To extend the analytical capabilities of the sensor, the peak current of catalytic hydrogen evolution at -1.4 V was examined (this peak current occurs in the complexation of platinum(II) with antibodies to DNA). The biosensor was used for determining antibodies to DNA in the concentration range 5.0 × 10-10-7.0 × 10-8 M. An immunoassay procedure was proposed. © 1999 MAEe cyrillic signK "Наука/Interperiodica".